CLAIMS

1. A method for injection foaming molding of a light alloy comprising the steps of holding a melt of a light alloy containing a thickener and a blowing agent decomposing at a high temperature to generate a gaseous component in respectively specified percentages at a temperature lower than the decomposition temperature of said blowing agent, then agitating said melt to allow said thickener and said blowing agent to disperse, measuring a predetermined amount of said melt for the injection into a mold, and injecting said melt into said mold to produce a foaming molded article of the light alloy,

wherein said melt is temperature-adjusted to the decomposition temperature of said blowing agent or higher and also inhibited to foam by pressuring at least immediately before said injection.

2. A method for injection foaming molding of a light alloy comprising the steps of holding a melt of a light alloy containing a thickener and a blowing agent decomposing at a high temperature to generate a gaseous component in respectively specified percentages at a temperature lower than the decomposition temperature of said blowing agent, introducing said melt to an injection molding device having an agitating function, a measuring function and an injecting function, agitating said melt to allow said thickener and said blowing agent to disperse, measuring a predetermined amount of said melt for the injection into a mold, and injecting said melt into said mold to produce a foaming molded article of the light alloy,

wherein said melt is temperature-adjusted to the decomposition temperature of said blowing agent or higher and inhibited to foam by

pressuring at least immediately before said injection.

3. The method for injection foaming molding of the light alloy according to claim 1, wherein the temperature of said melt is lower than the decomposition temperature of said blowing agent at the time of agitating said melt.

4. The method for injection foaming molding of the light alloy according to claim 2, wherein the temperature of said melt is lower than the decomposition temperature of said blowing agent at the time of agitating said melt.

5. A method for injection foaming molding of a light alloy comprising the steps of agitating a melt of a light alloy containing a predetermined amount of a thickener to allow said thickener to disperse, supplying inert gas as a blowing agent into said melt in a specified percentage while agitating to allow said inert gas to disperse, measuring a predetermined amount of said melt for the injection into a mold, and injecting said melt into said mold to produce a foaming molded article of the light alloy,

wherein said melt is inhibited to foam by pressuring said melt at least until said injection is performed after the supply of said inert gas.

6. The method for injection foaming molding of the light alloy according to claim 5, wherein said pressuring is performed by a pressing force caused by said agitation with a screw.

7. The method for injection foaming molding of the light alloy according to claim 1, wherein said melt is injected in an injection amount reduced by a foaming portion relative to the inner capacity of the mold to break said pressuring, whereby said melt is allowed to foam within said mold

to obtain the foaming molded article.

8. The method for injection foaming molding of the light alloy according to claim 2, wherein said melt is injected in an injection amount reduced by a foaming portion relative to the inner capacity of said mold to break said pressuring, whereby said melt is allowed to foam within said mold to obtain the foaming molded article.

9. The method for injection foaming molding of the light alloy according to claim 5, wherein said melt is injected in an injection amount reduced by a foaming portion relative to the inner capacity of said mold to break said pressuring, whereby said melt is allowed to foam within said mold to obtain the foaming molded article.

10. The method for injection foaming molding of the light alloy according to claim 1, wherein said melt is injected in an injection amount equal to the inner capacity of said mold, and said mold is opened by the capacity of a foaming portion to break said pressuring, whereby said melt is allowed to foam to obtain the foaming molded article.

11. The method for injection foaming molding of the light alloy according to claim 2, wherein said melt is injected in an injection amount equal to the inner capacity of said mold, and said mold is opened by the capacity of a foaming portion to break said pressuring, whereby said melt is allowed to foam to obtain the foaming molded article.

12. The method for injection foaming molding of the light alloy according to claim 5, wherein said melt is injected in an injection amount equal to the inner capacity of said mold, and said mold is opened by the capacity of a foaming portion to break said pressuring, whereby said melt is

allowed to foam to obtain the foaming molded article.

13. A method for injection foaming molding of a light alloy comprising the steps of adjusting the temperature of a melt of a light alloy containing a thickener and a blowing agent decomposing at a high temperature to generate a gaseous component in respectively specified percentages to a temperature lower than the decomposition temperature of said blowing agent, supplying said melt into a barrel having a screw provided to be rotatable, protrudable and retreatable, agitating said melt by rotating said screw to allow said thickener and said blowing agent to disperse, measuring said melt in a measuring part formed at a front portion of said barrel by retreating said screw with rotation, adjusting the temperature of said melt to the decomposition temperature of said blowing agent or higher while inhibiting the foaming of said melt by pressuring the melt within the measuring part the capacity of which is made constant by stopping the retreat of said screw at least immediately before injection, and injecting said melt into said mold by protruding said screw to obtain a foaming molded article.

14. A method for injection foaming molding of a light alloy using an apparatus for injection foaming molding comprising a barrel containing a screw and a cylinder containing a plunger, a front portion of said cylinder communicating with the front portion of the barrel through a communicating passage, comprising:

(a) a supplying process for supplying the melt of the light alloy containing a thickener and a blowing agent decomposing at a high temperature to generate a gaseous component in respectively specified

percentages, which is temperature-adjusted and held at a temperature lower than the decomposition temperature of said blowing agent, into said barrel;

(b) an agitating process for agitating said melt within said barrel by rotating said screw within the barrel to allow said thickener and said blowing agent to disperse;

(c) a measuring process for introducing and measuring said melt from said barrel to a measuring part formed in the front portion in said cylinder by retreating said plunger through said communicating passage;

(d) a pressuring process for adjusting the temperature of said melt to the decomposition temperature of said blowing agent or higher, and pressuring said melt to inhibit the foaming of said melt by generating the gaseous component within said measuring part the capacity of which is made constant by stopping the retreat of said plunger at least immediately before injection; and

(e) an injection foaming process for injecting said melt inhibited to foam in said pressuring process into a mold communicating with the inner portion of said cylinder in the front portion of said cylinder by protruding said plunger.

15. A method for injection foaming molding of a light alloy comprising the steps of holding a melt of a light alloy containing a thickener and a blowing agent decomposing at a high temperature to generate a gaseous component in respectively specified percentages at a temperature lower than the decomposition temperature of said blowing agent, agitating said melt to allow said thickener and said blowing agent to disperse, measuring a predetermined amount of said melt for the injection into a mold, and

injecting said melt into said mold through an injection nozzle to produce a foaming molded article of the light alloy,

wherein said melt is heated to the decomposition temperature of said blowing agent or higher at least immediately before the injection into said mold.

16. The method for injection foaming molding of the light alloy according to claim 15, wherein the temperature of said melt is raised to the decomposition temperature of said blowing agent or higher at the time of passing through said nozzle.

17. An apparatus for injection foaming molding of a light alloy comprising:

a cylindrical member for receiving a melt of a light alloy containing a thickener and a blowing agent decomposing at a high temperature to generate a gaseous component, wherein said melt is agitated by an agitating means provided rotatably in the inner portion to allow said thickener and said blowing agent to disperse;

a movable member provided to be protrudable and retreatable within said cylindrical member, said movable member forming a measuring part for measuring said melt in cooperation with said cylindrical member at the tip of said cylindrical member by retreating and injecting said melt with the gaseous component generated therein into a mold communicating with said measuring part by protruding; and

a position retaining means for retaining the position of said movable member against an increase in internal pressure of said cylindrical member in the generation of said gaseous component so that said melt after the

completion of the measurement can be retained in the pressured state to inhibit the foaming thereof.

18. The apparatus for injection foaming molding of the light alloy according to claim 17, wherein said position retaining means is a solenoid valve provided in a hydraulic circuit of a hydraulic cylinder for protruding and retreating said movable member so as to be capable of interrupting the incoming and outgoing of oil to the hydraulic cylinder.

19. The apparatus for injection foaming molding of the light alloy according to claim 17, wherein said movable member is composed of a rotatable agitating screw.

20. The apparatus for injection foaming molding of the light alloy according to claim 17, wherein said cylindrical member comprises a barrel for agitating said melt and a cylinder connected thereto to introduce and measure said agitated melt, and said movable member is a plunger provided within said cylinder.

21. An apparatus for injection foaming molding of a light alloy comprising:

a barrel for receiving a melt of the light alloy containing a thickener and a blowing agent decomposing at a high temperature to generate a gaseous component, said barrel comprising a temperature adjusting means capable of adjusting the temperature of said melt from a temperature lower than the decomposition temperature of said blowing agent to the decomposition temperature or higher, in which the gaseous component can be generated by adjusting the temperature of said melt to the decomposition temperature of said blowing agent or higher by said temperature adjusting

means;

a screw provided within said barrel to be rotatable, protrudable and retreatable and adapted to agitate said melt by rotating to allow said thickener and said blowing agent to disperse, to form a measuring part in cooperation with said barrel at the tip of said barrel by retreating, and to inject the measured melt from said barrel into a mold by protruding; and

a position retaining means for retaining the position of said screw against an increase in internal pressure of said barrel in the generation of said gaseous component so that said melt after the completion of the measurement can be retained in the pressured state to inhibit the foaming thereof.

22. An apparatus for injection foaming molding of a light alloy comprising:

a barrel for receiving a melt of a light alloy containing a thickener and a blowing agent decomposing at a high temperature to generate a gaseous component, said barrel having a first temperature adjusting means capable of adjusting the temperature of said melt to a temperature lower than the decomposition temperature of said blowing agent, in which said melt is agitated by a screw provided rotatably in the inner portion to allow said thickener and said blowing agent to disperse;

a cylinder connected to said barrel and having a second temperature adjusting means capable of adjusting the temperature of said melt to the decomposition temperature of said blowing agent or higher;

a plunger provided within said cylinder to be protrudable and retreatable, said plunger forming a measuring part for measuring said melt

in cooperation with said cylinder at the tip of said cylinder by retreating, and injecting the measured melt from said cylinder into a mold by protruding; and

a position retaining means for retaining the position of said plunger against an increase in internal pressure of said cylinder in the generation of said gaseous component, so that said melt after the completion of the measurement can be retained in the pressured state to inhibit the foaming thereof.

23. An apparatus for injection foaming molding of a light alloy comprising:

a cylindrical member for receiving a melt of the light alloy containing a thickener and a blowing agent decomposing at a high temperature to generate a gaseous component, in which said melt is agitated by an agitating means provided rotatably in the inner portion to allow said thickener and said blowing agent to disperse;

a movable member provided within said cylindrical member to be protrudable and retreatable, said member forming a measuring part for measuring said melt in cooperation with said cylindrical member at the tip of said cylindrical member by retreating and injecting said melt into a mold communicating with said measuring part through an injection nozzle by protruding; and

a nozzle heating means capable of heating said melt to the decomposition temperature of said blowing agent or higher at the time of passing said melt through said nozzle.